Y. PERMIAK

# CAMPFIRE TO FURNACE

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PROGRESS PUBLISHERS
MOSCOW

Long, long ago, primitive cavemen were kept warm by campfires. The space inside their cave was warm as long as the fire kept going. But if it went out, they would freeze. That is why someone had to tend the fire all through the night.

When man discovered that fire warmed stones, he made a crude hearth and kept his fire going within the circle. Even if the fire went out at night, the cave was kept warm by the red-hot stones.

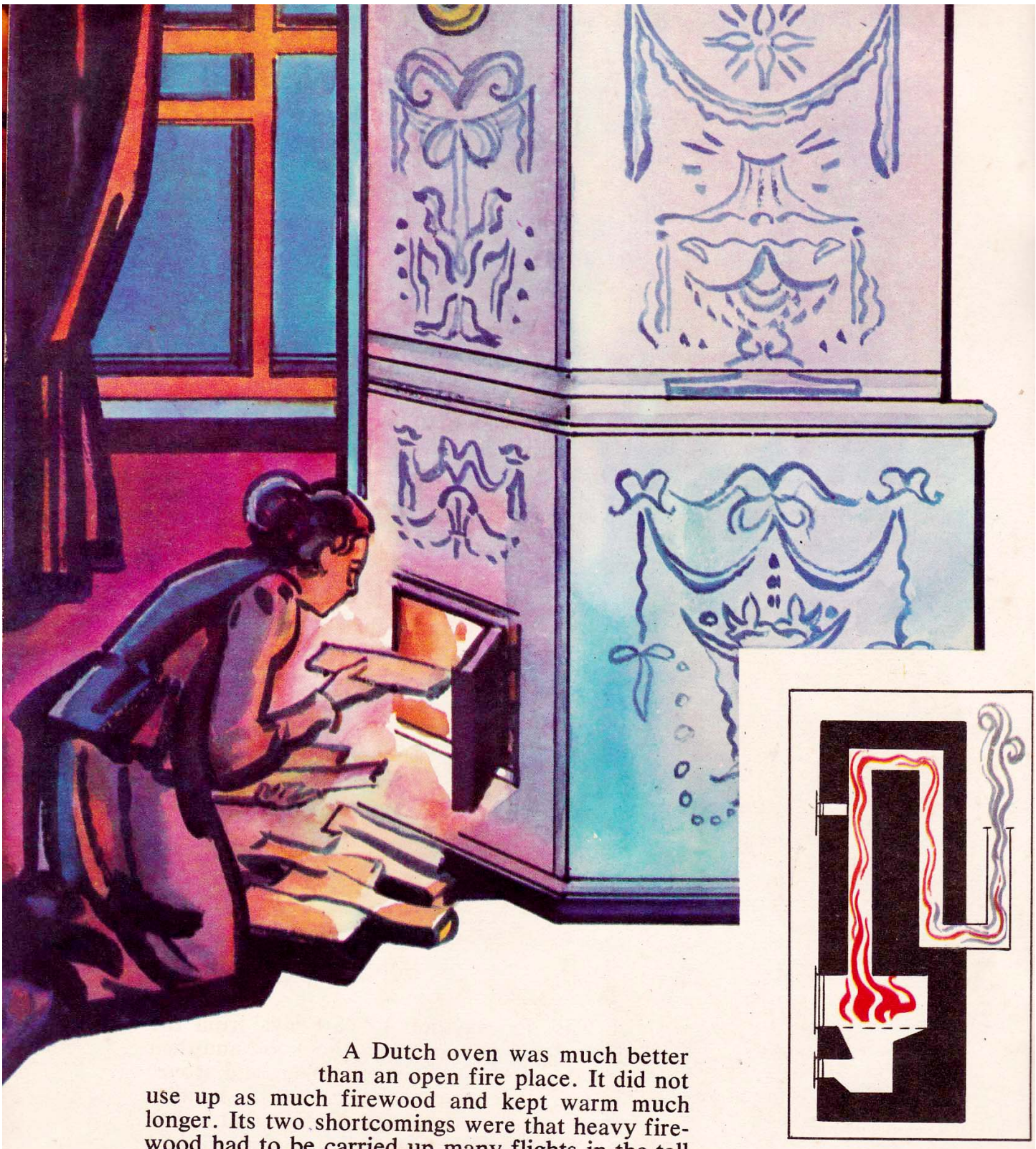
Man's next home was a dugout in the ground. He moved his stone hearth there, and had a fire to warm his house. However, the fire also filled it with smoke and soot, so the door had to be kept open to let it out. As the smoke drifted out the door, the warmth inside did, too.

At last man invented another way for smoke to escape by constructing a chimney over the hearth. Still, a lot of warmth escaped through the chimney at night. Then people began covering the top of the chimney with a large stone after the fire died down.

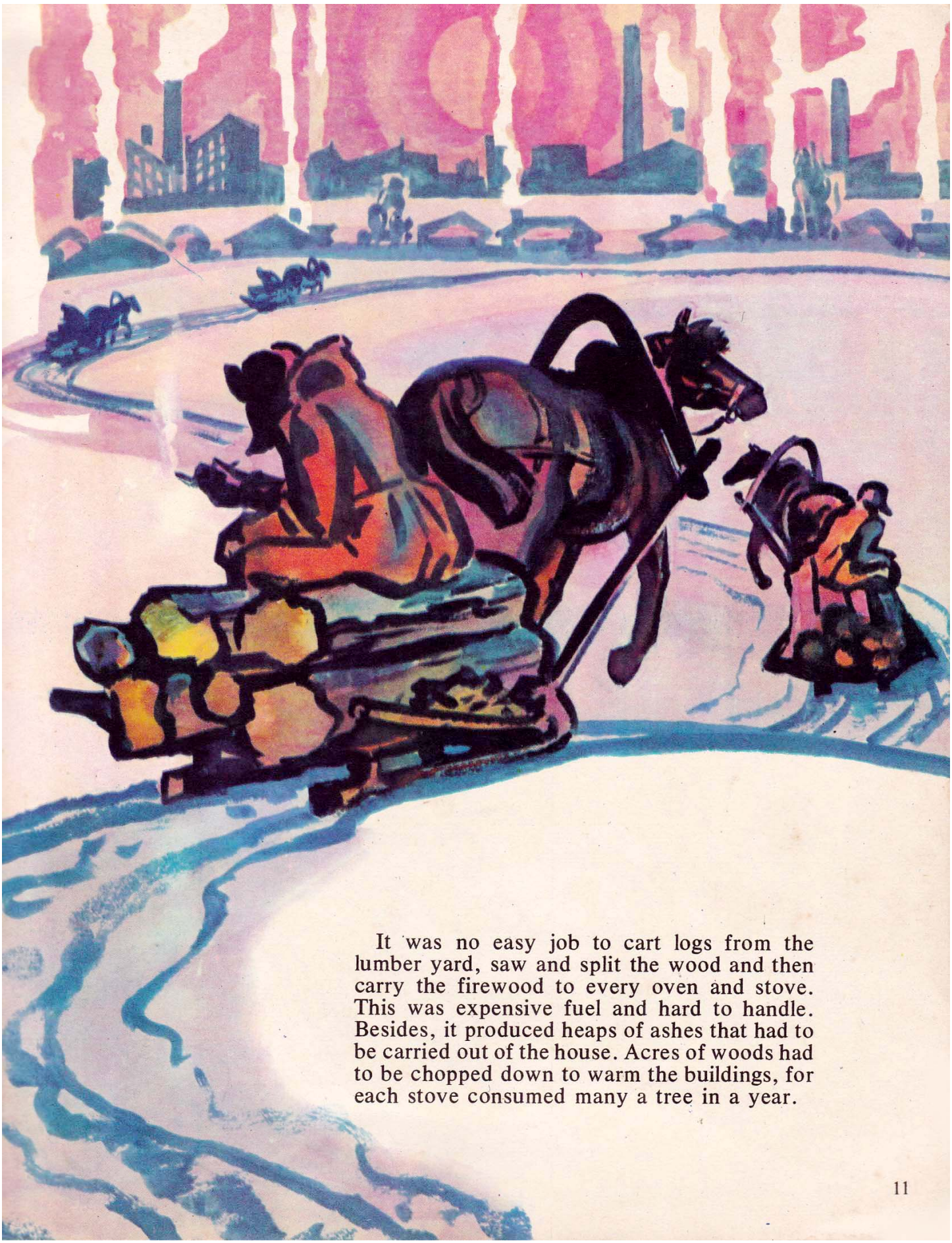
Many, many years were to go by before people learned how to make and fire bricks and then invented a sliding metal plate called a damper to keep the warmth in a stove.

The oven bricks became very hot and stayed hot for a long time, as the tamed fire blazed inside this Russian oven. The oven warmed the house. Here the family's food was cooked and its bread was baked.

Even the grandest palaces were heated by the same familiar campfire, locked away in a brick fireplace with a tall chimney.

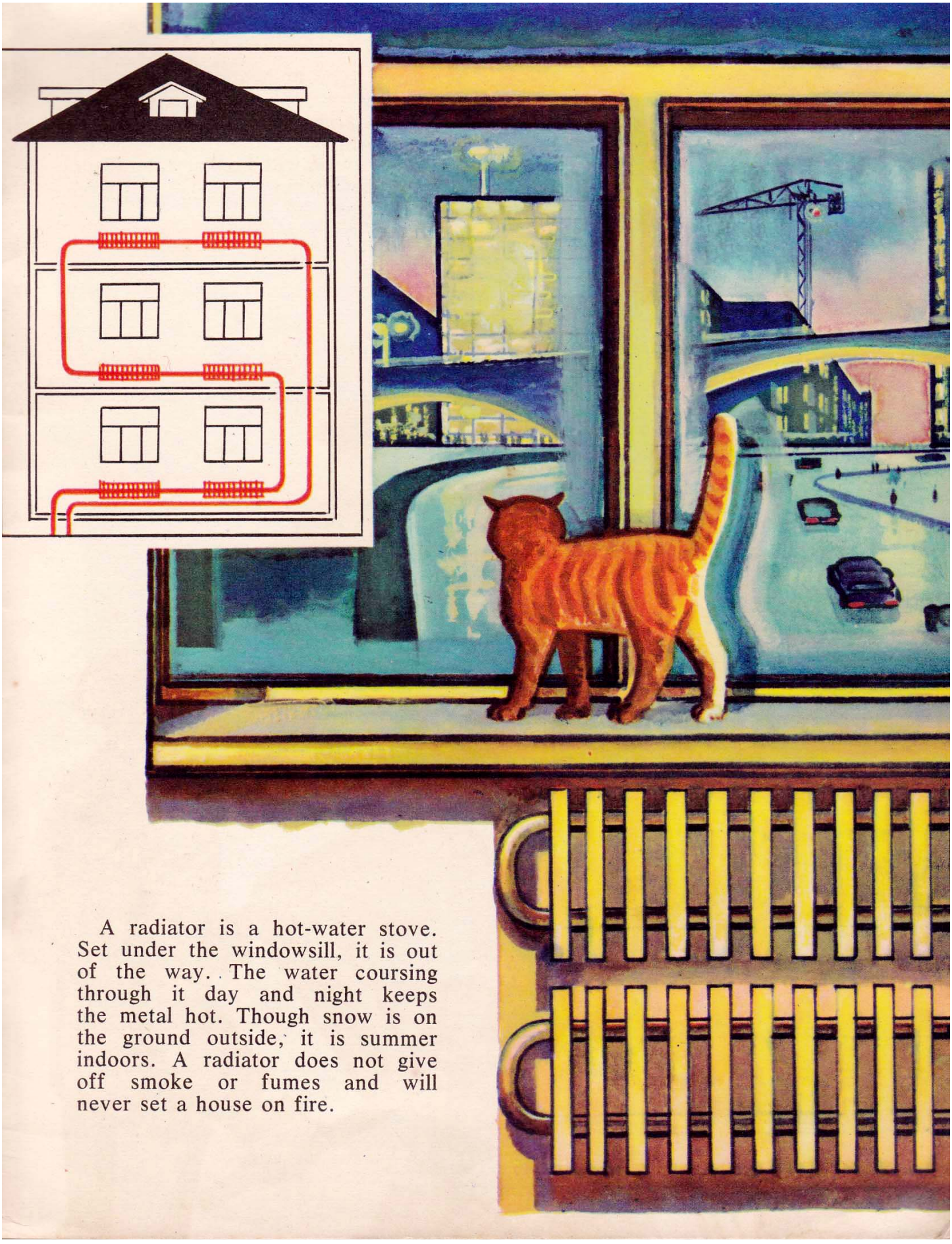


A Dutch oven was much better than an open fire place. It did not use up as much firewood and kept warm much longer. Its two shortcomings were that heavy firewood had to be carried up many flights in the tall houses and someone had to keep an eye on the oven as long as the fire was burning.

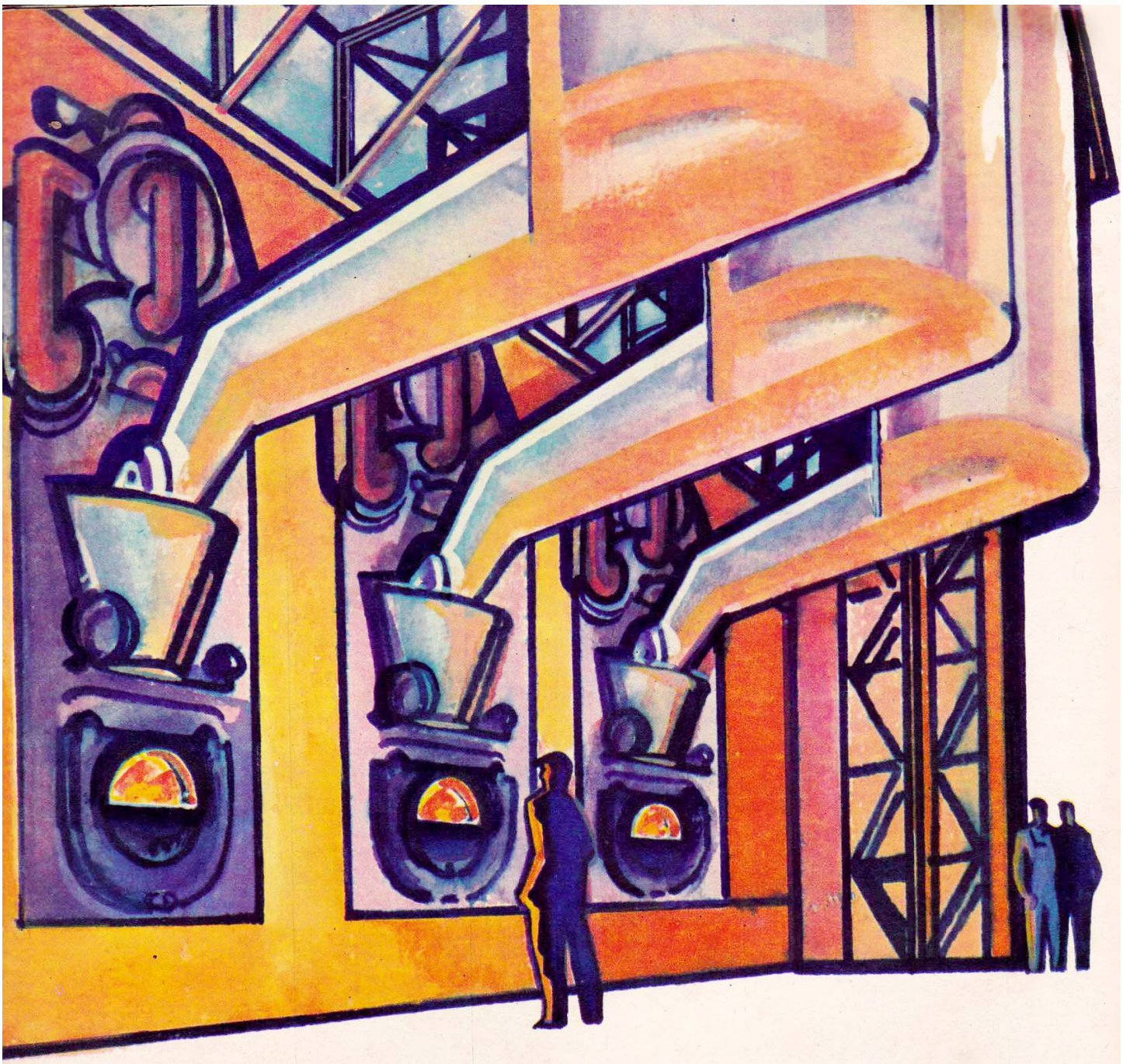


It was no easy job to cart logs from the lumber yard, saw and split the wood and then carry the firewood to every oven and stove. This was expensive fuel and hard to handle. Besides, it produced heaps of ashes that had to be carried out of the house. Acres of woods had to be chopped down to warm the buildings, for each stove consumed many a tree in a year.

Then a new type of heating system was invented, and hot water boilers were installed in the cellars of large houses. Now, instead of brick ovens, iron pipes and radiators were installed in the rooms with boiling water from the boiler to heat them.



A radiator is a hot-water stove. Set under the windowsill, it is out of the way. The water coursing through it day and night keeps the metal hot. Though snow is on the ground outside, it is summer indoors. A radiator does not give off smoke or fumes and will never set a house on fire.

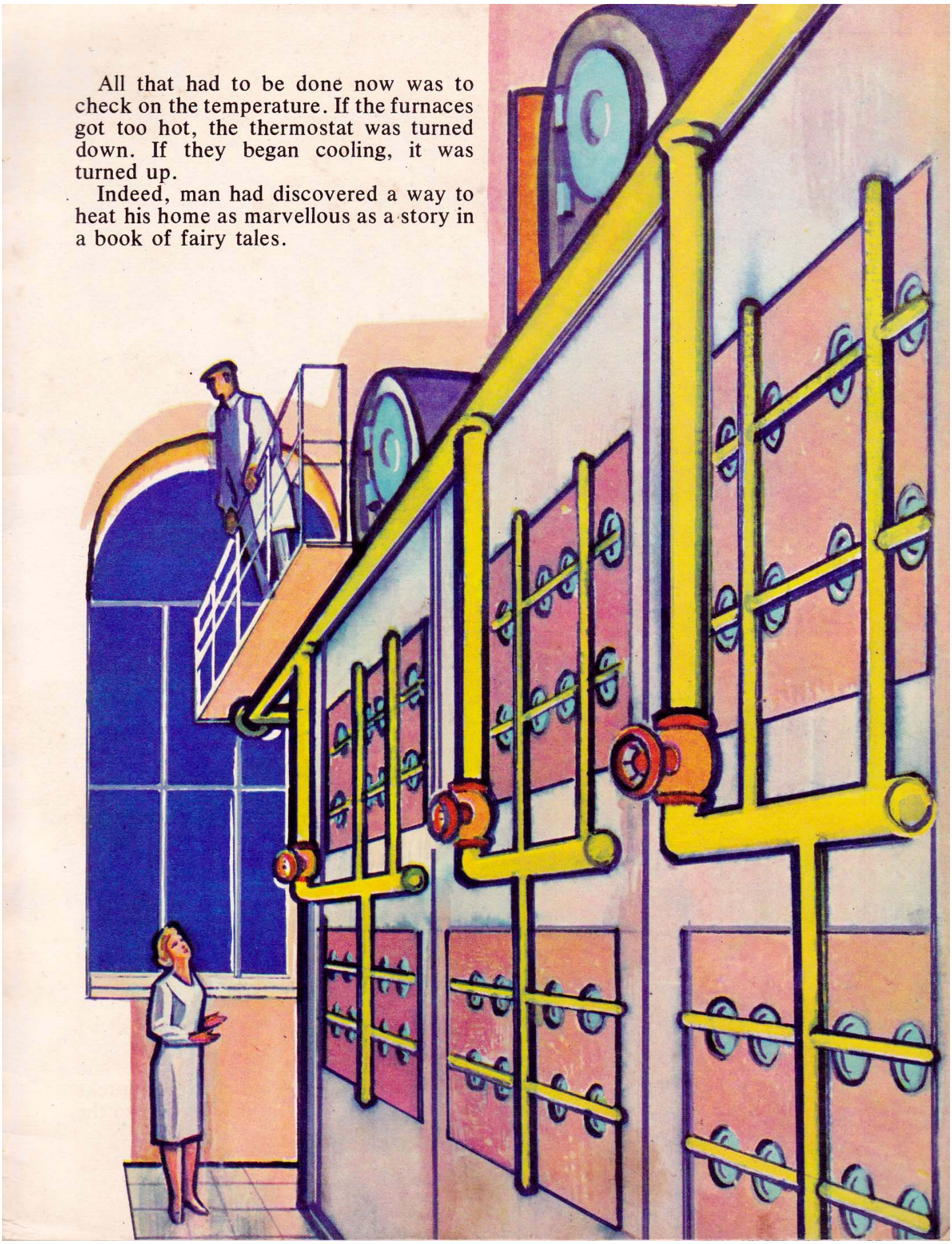


Coal burns brightly in these large furnaces, heating water for the pipes and radiators in every room on every floor. When the water cools it comes back down to the boiler to be heated again, continuing on this endless circle day and night. Now one man kept a hundred apartments warm all by himself.

Keeping coal furnaces going day and night became too bothersome, and so gas pipes were installed. Gas did not have to be delivered by huge trucks or shovelled into the fireboxes. It flowed through the pipes and into the furnaces itself.

All that had to be done now was to check on the temperature. If the furnaces got too hot, the thermostat was turned down. If they began cooling, it was turned up.

Indeed, man had discovered a way to heat his home as marvellous as a story in a book of fairy tales.



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**Е. Пермяк**

**ОТ КОСТРА ДО КОТЛА**

*На английском языке*

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